

J. DIAGRAMS AND SCHEMATICS

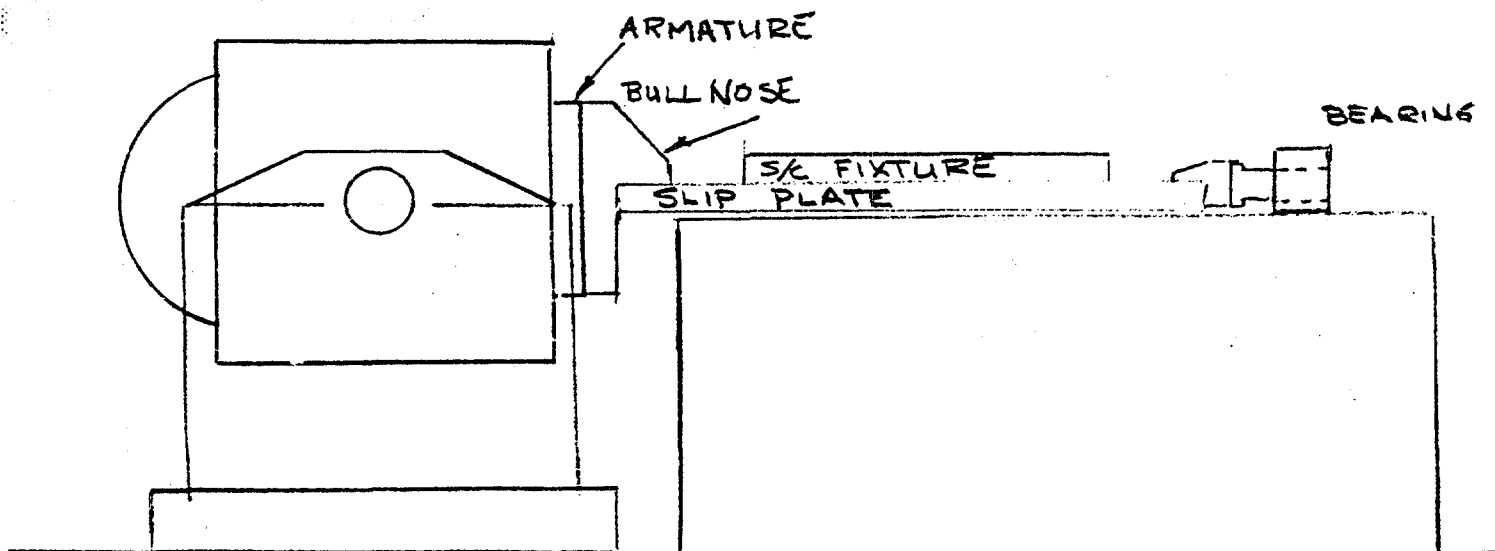
J-1. Weight Chart

PREPARED BY L. ALBER	DATE 3-27-00	REPORT NO.
CHECKED BY	DATE	PROJECT HESSI

TITLE

MOVING WEIGHT FOR HESSI VIBRATION

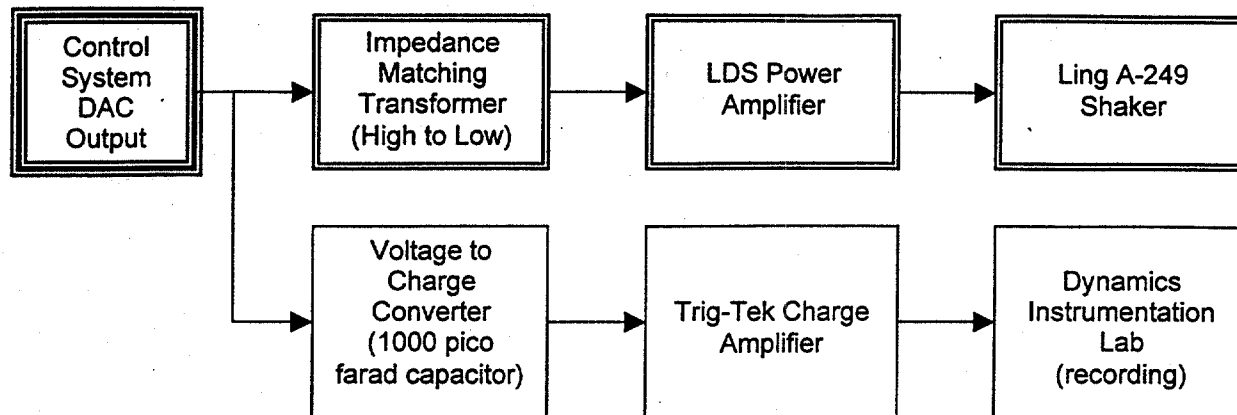
	APPROXIMATE WEIGHT
1. A-249 ARMATURE	≈ 420 Lbs
2. BULL NOSE	≈ 280 Lbs
3. SLIP PLATE (MAGNESIUM)	≈ 445 Lbs
4. SK FIXTURE ALUMINIUM	≈ 434 Lbs
5. BEARING/ATTACH	≈ 15 Lbs
SUB TOTAL	≈ 1594 Lbs

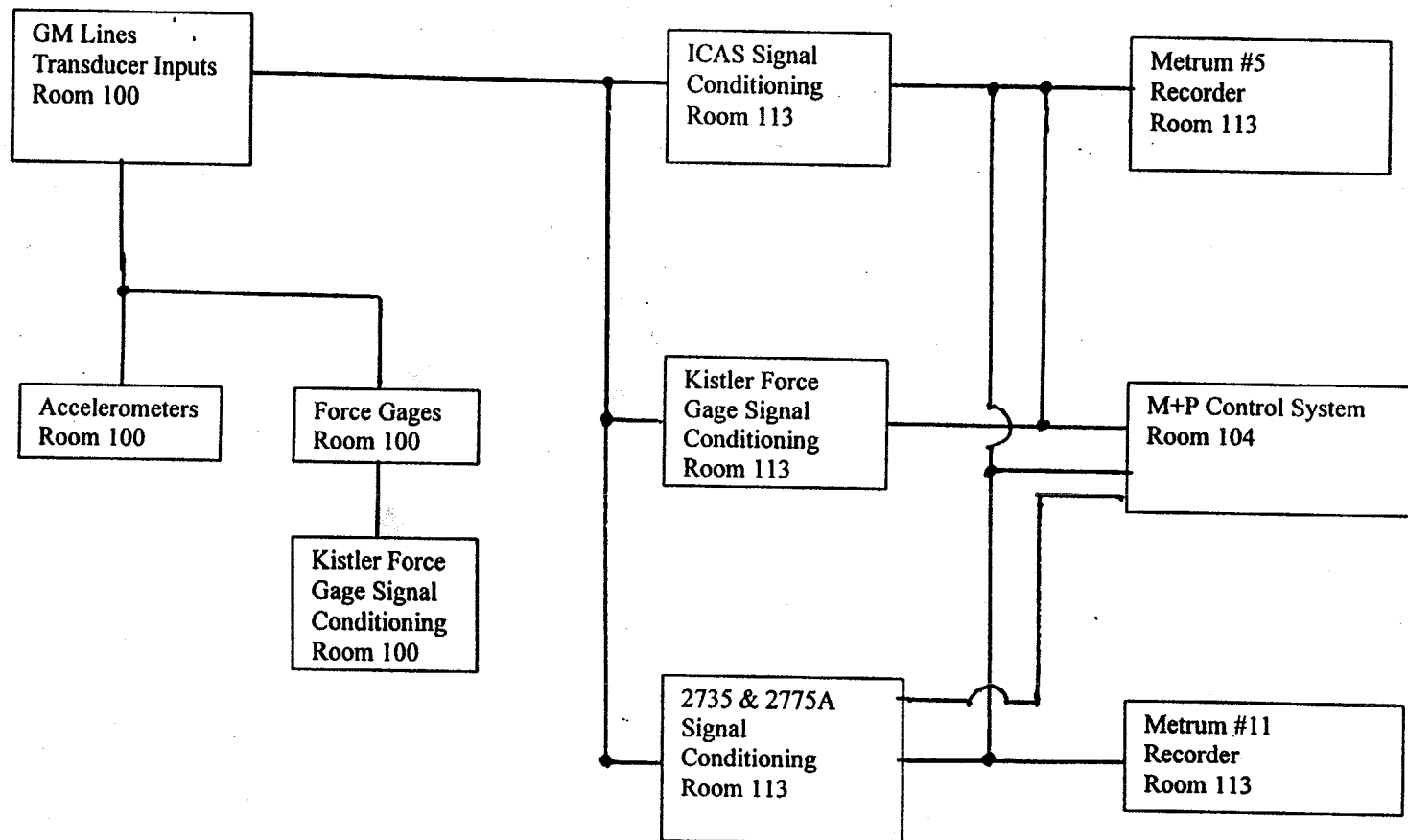
SPACECRAFT _____**TOTAL**

J-2. Control & Test Setup Diagram

HP Control System Signal Path

P. Collins 3/25/00

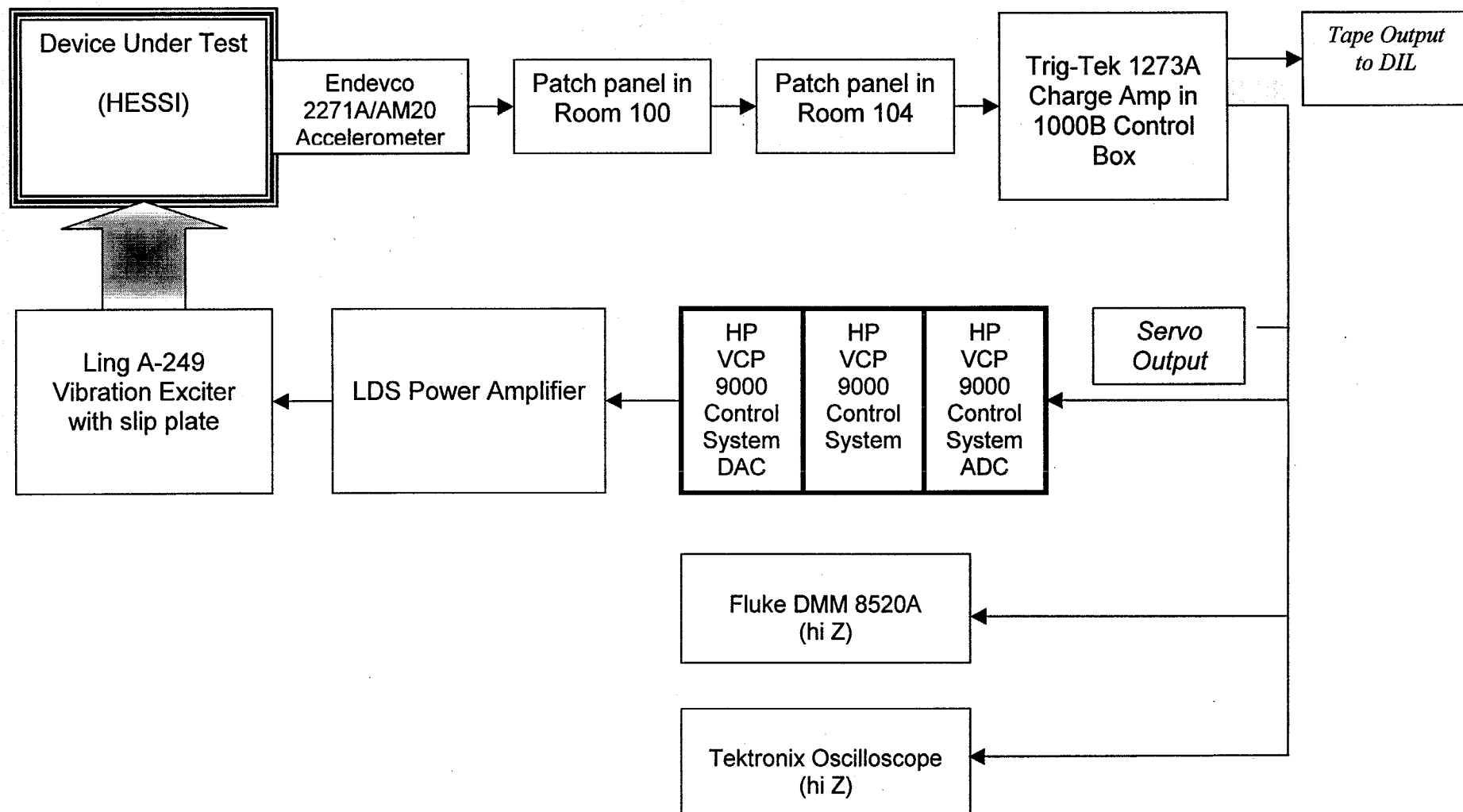




HESSI Instrumentation Block Diagram

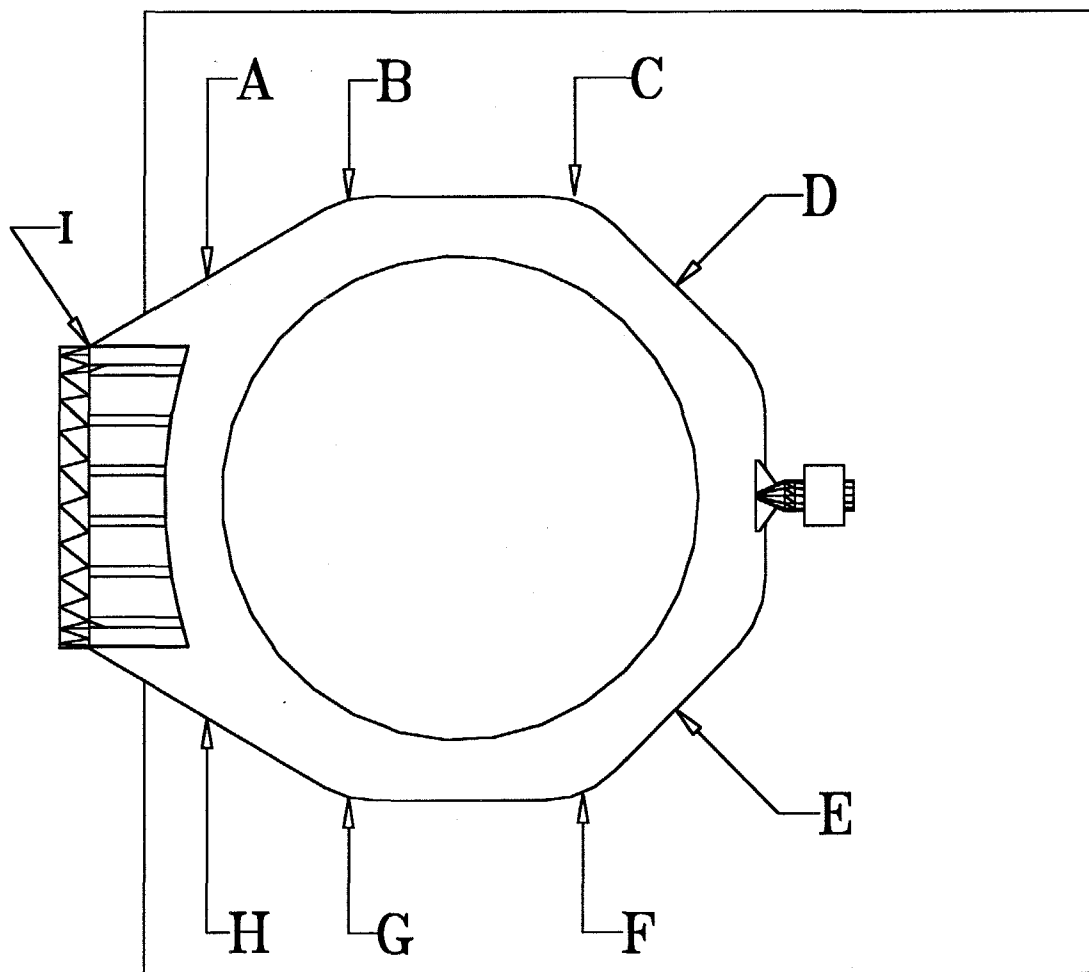
JPL Vibration Control System

P. Collins 3/27/00



J-3. Diagram of Table Gap Measurements

Gap measurements between slip table and granite



Before fixture bolts removed

A - 0.065"
 B - 0.093"
 C - 0.136"
 D - 0.125"
 E - 0.071"
 F - 0.031"
 G - 0.040"
 H - 0.000"

I - 0.004" closing to 0.000" within
 approximately 4" from edge

After fixture bolts removed

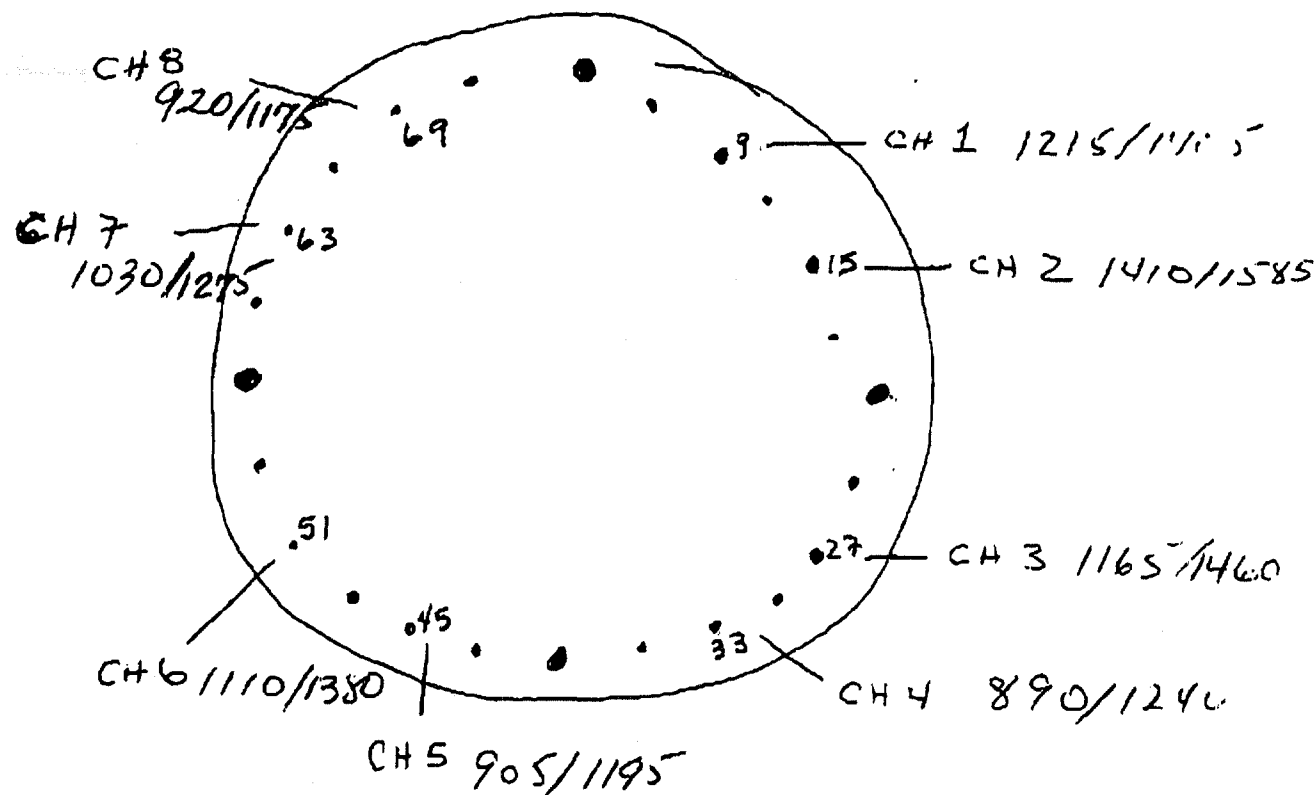
A - 0.061"
 B - 0.090"
 C - 0.125"
 D - 0.116"
 E - 0.068"
 F - 0.027"
 G - 0.002"
 H - 0.000"

W →

J-4. Pre-Load Diagram

SHAKER

(75)

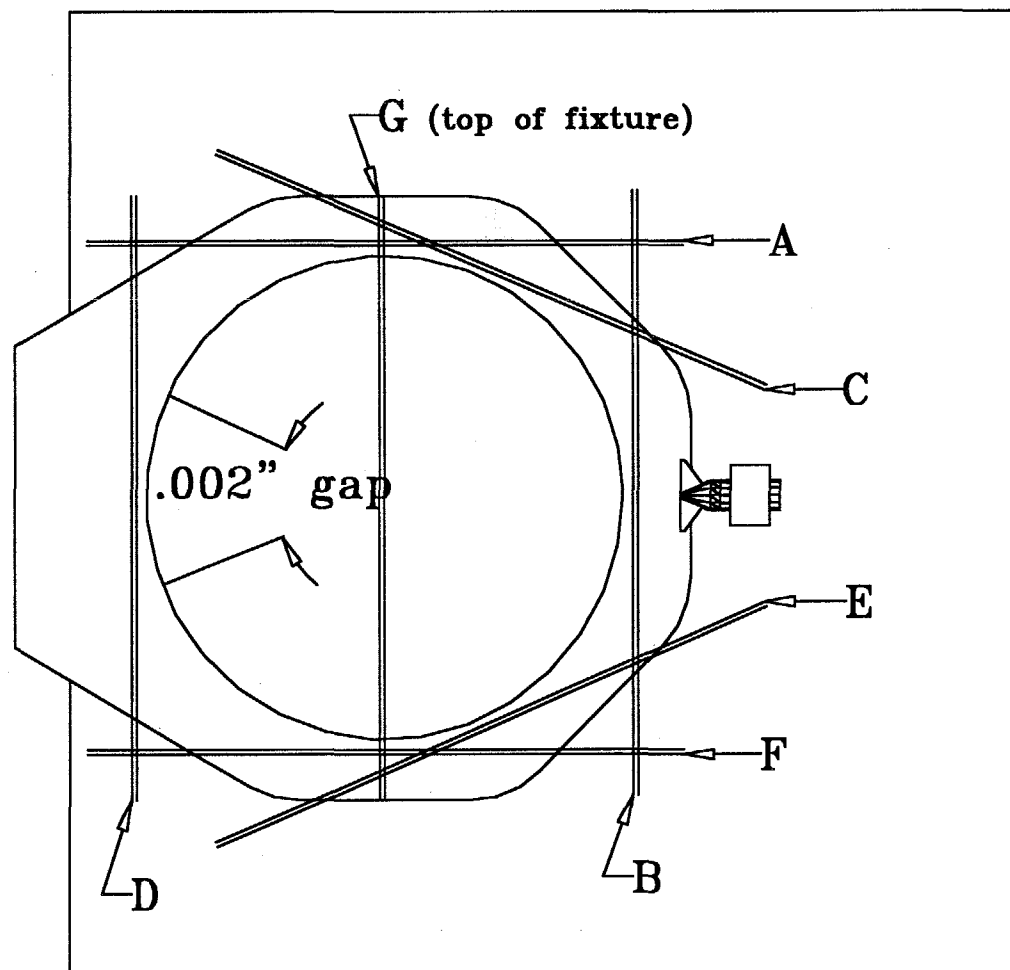


HESSI MOUNTING BOLT FORCE AND TORQUE DATA

Twenty four 10-32 x 1.50" SHCS were used to attach the vibration fixture interface plate to the spacecraft interface plate. The bolted joint has a grip length of 0.90", leaving three diameters of thread engagement. The bolts were all initially torqued to 50 in lb, and then again to 60 in lb as an effort to achieve more uniform clamping pressure. The sketch below provides the actual measured clamping forces from the Kistler 9251 Force Gages. The first and second numbers are the initial and final values observed after tightening all bolts. From this data, the average clamping force was 1340 lbs. $\pm 10\%$. The first evidence of slip in the ill fated Sine Burst test was at the measured force of 6000 lbs, which means the average, or effective coefficient of friction was 0.19.

J-5. Straightedge

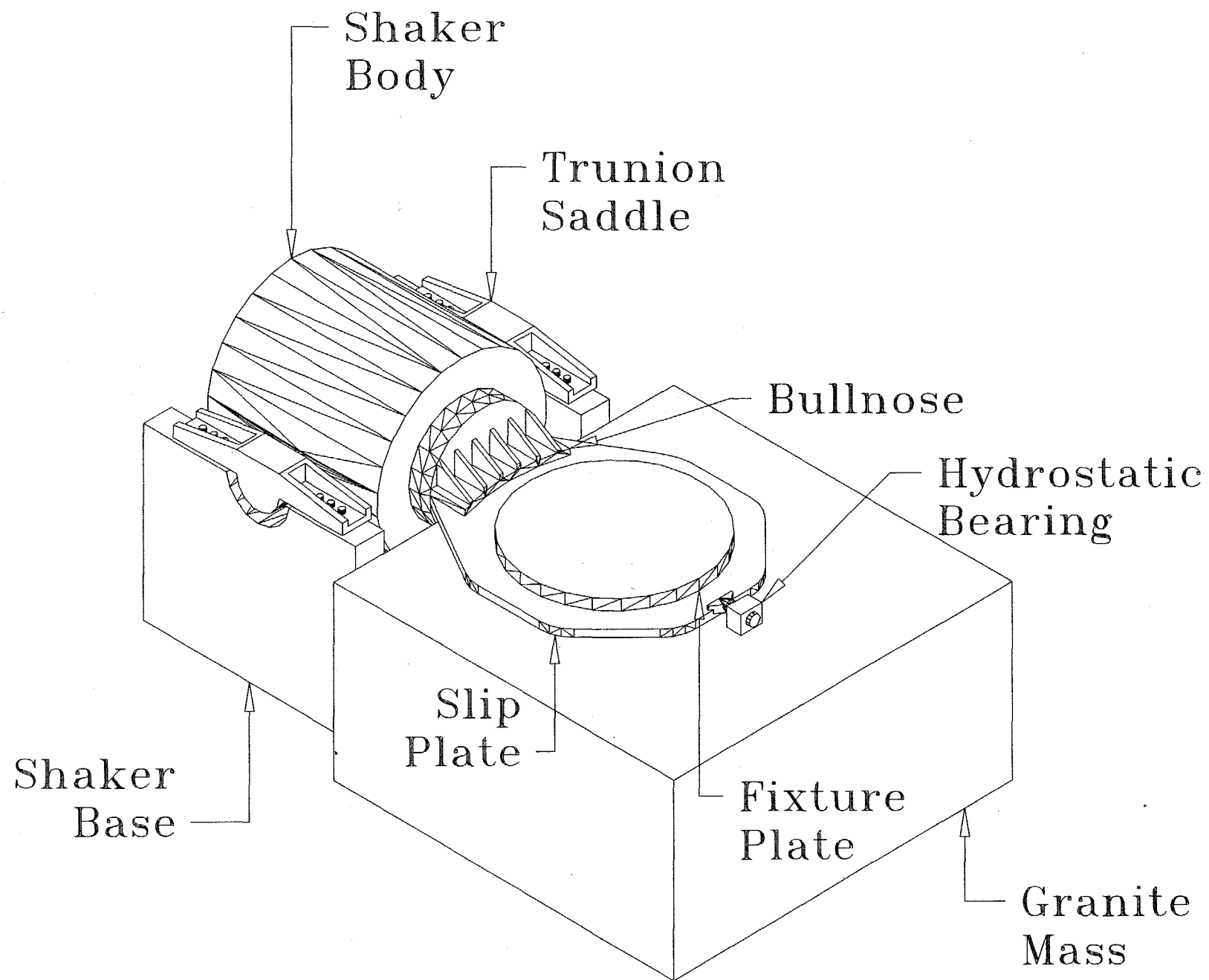
Gap measurements under straightedge



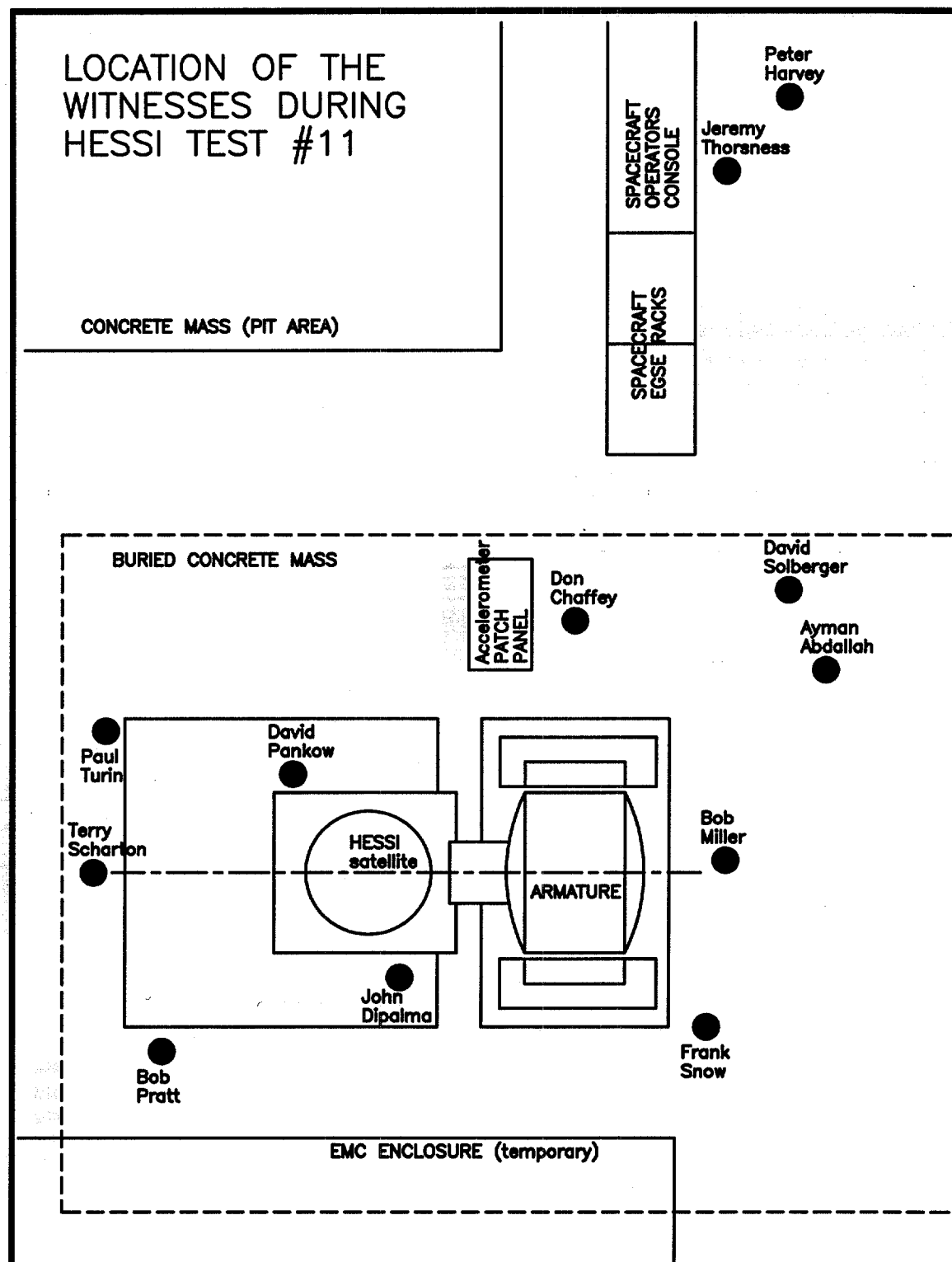
- A - No Gaps
- B - No Gaps
- C - .004" from SE end closing to 0.000" in about 12"
- D - No Gaps
- E - No Gaps
- F - No Gaps
- G - No Gaps

W

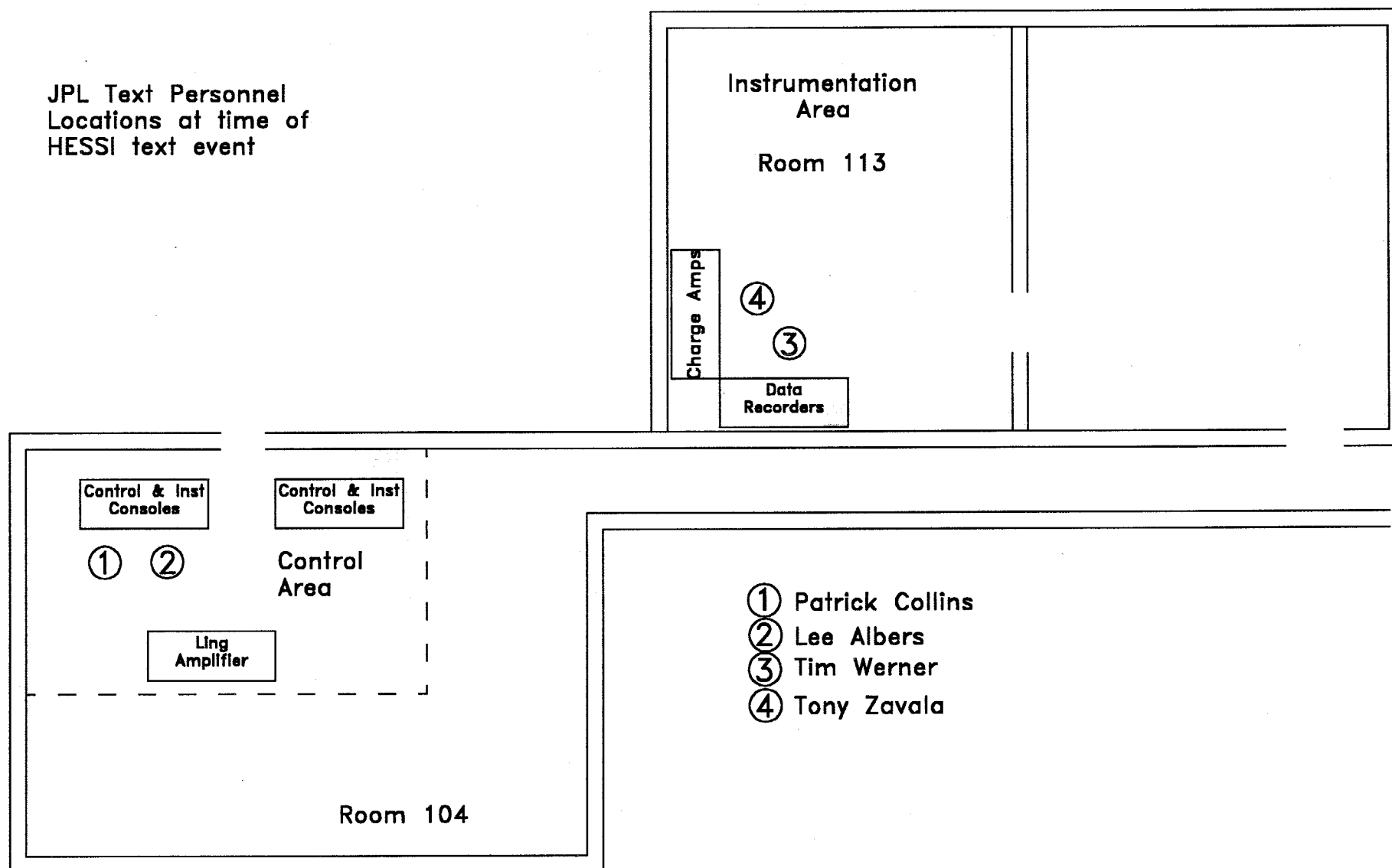
J-6. Shaker Setup ACAD Model



J-7. Personnel Location



JPL Text Personnel
Locations at time of
HESSI text event



K. PHOTOS



Figure K-1



Figure K-2



Figure K-3



Figure K-4

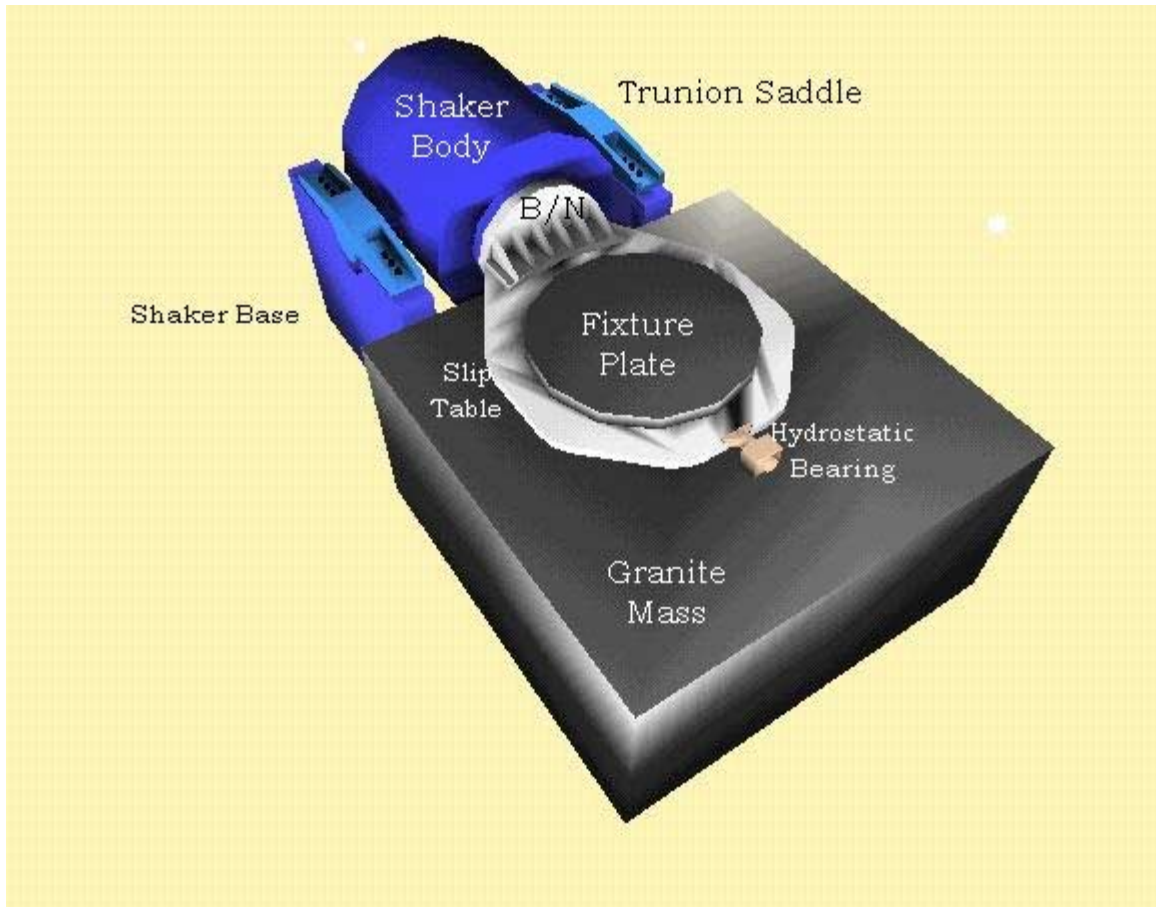


Figure K-5